

QUALITY OF SERVICE (QoS) ROUTING FOR BLUETOOTH PERSONAL AREA NETWORK (PAN) WITH INTER-LAYER OPTIMIZATION

ABSTRACT OF THE DISCLOSURE

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This invention grows out of an appreciation by the inventor that the QoS is an important metric for a Bluetooth (BT) PAN, as unpredictable indoor radio conditions can degrade the QoS and the stability of the routing protocol that is used to guarantee the QoS. In a first aspect this invention provides a traffic measurement embodiment that updates the QoS
10 information in all nodes along the path of a packet. This embodiment functions to monitor the end-to-end QoS quality, and improves the protocol stability. In a second aspect this invention provides a cross-layer optimization embodiment by which the BT Link layer information (e.g., LinkSupervision_Timeout and RSSI) is integrated into the PAN routing protocol, to further enhance the stability of the routing protocol.